

REMARKS

Status of the Claims

Claims 1-31 are pending in the above-identified application. Claims 9-17 are indicated to contain allowable subject matter. Claims 1, 5, 16-18, 23, and 27-31 are amended. Claims 2-4, 9-15, 19-22, and 24-26 are original. Claims 6-8 are canceled. Support for the amendments is found throughout the specification. Accordingly, the amendments do not introduce new matter into the above-identified application.

Status of the Specification

The typographical and nomenclature errors that appeared in Claim 16 also appeared in the specification, on page 34, line 19, and ends on page 36, line 6. The revisions to correct these errors introduce no new subject matter to this application. Applicants thank Examiner Lee for recommending these revisions.

Claim Objections

The Patent and Trademark Office ("PTO") objected to Claims 1, 16-18, 23, 27, and 29-31 as follows:

(1) Claims 1, 18, 23, 27, and 29-31 are objected to because of "inorganic group" and "organometallic group" substituents. In view of the above amendments, Applicants assert that this objection is obviated. Support for the amendments can be found in the specification on page 12, lines 6-12. Accordingly, Applicants respectfully request that this objection be withdrawn.

(2) Claim 16 is objected to because of chemical nomenclature errors. Applicants assert that this objection is obviated in view of the above amendments and respectfully request that this objection be withdrawn.

(3) Claim 17 is objected to because clay materials were recited as cocatalysts. Applicants assert that this rejection is obviated in view of the above amendment and respectfully request that this objection be withdrawn.

Rejection Under 35 USC § 112, Second Paragraph

Claims 27, 28, and 31 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Respectfully, this rejection is traversed.

The PTO states that the claimed compositions are not catalysts, consisting essentially of metallocene and support, but with no co-activator/co-catalyst component. Applicants respectfully disagree. On page 2, lines 5-8, of the specification, “[i]t was discovered that certain types of metallocene compounds can be contacted with a chemically-treated solid oxide to form a catalyst composition for the polymerization of olefins, without the need for any cocatalysts...” See also, for example, page 7, lines 19-22, “...the catalyst composition comprises at least one hydrocarbyl-substituted metallocene compound and a chemically-treated solid oxide, and does not require the presence of a cocatalyst to polymerize olefins.” See also Table I, on page 52, showing polymerization data using the catalyst compositions of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 27, 28, and 31 under 35 U.S.C. § 112, second paragraph, be withdrawn.

Rejections Under 35 USC § 102

Claims 1, 2, 4-8, and 18-31 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,376,415 to McDaniel et al. (“*McDaniel* ‘415”). Respectfully, this rejection is obviated by the above amendments.

McDaniel ‘415 discloses “[a] process to produce a catalyst composition, said process comprising contacting at least one organometal compound, **at least one organoaluminum compound**, and at least one treated solid oxide compound...” (Emphasis added). Claim 1, column 18, lines 47-51. See also *McDaniel* ‘415 on column 1, lines 58-64. *McDaniel* ‘415 is silent with respect to a catalyst composition in the absence of an organoaluminum

compound. Thus, *McDaniel* '415 does not teach or suggest every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 1, 2, 4-8, and 18-31 under 35 U.S.C. § 102(b) in view of *McDaniel* '415 be withdrawn.

Claims 1, 2, 4-8, and 18-31 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,395,666 to *McDaniel et al.* ("*McDaniel* '666"). Respectfully, this rejection is obviated by the above amendments.

McDaniel '666 discloses "[a] process to produce a catalyst composition, said process comprising contacting respectively organometal compound, **at least one organoaluminum compound**, and a fluorided solid oxide compound..." (Emphasis added). Claim 1, column 21, lines 15-19. See also *McDaniel* '666 on column 1, lines 62-67, and column 12, lines 54-57. *McDaniel* '666 is silent with respect to a catalyst composition in the absence of organoaluminum. Thus, *McDaniel* '666 does not teach or suggest every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 1, 2, 4-8, and 18-31 under 35 U.S.C. § 102(b) in view of *McDaniel* '666 be withdrawn.

Claims 1-8, 20-23, 26, and 29-31 are rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,667,274 to *Hawley et al.* ("*Hawley*"). Respectfully, this rejection is obviated by the above amendments.

Hawley discloses methods for producing a catalyst composition, including a "process comprising simultaneously contacting at least one treated solid oxide compound, at least one organometal compound, **at least one organoaluminum compound**, and at least one alpha olefin to produce the catalyst composition." (Emphasis added). Column 2, lines 62-67. See also *Hawley* on column 1, line 64, to column 2, line 18. *Hawley* is silent with respect to a catalyst composition in the absence of organoaluminum. Thus, *Hawley* does not teach or suggest every element of the claimed invention. Accordingly, Applicants respectfully request that the rejection of Claims 1-8, 20-23, 26, and 29-31 under 35 U.S.C. § 102(e) in view of *Hawley* be withdrawn.

Claims 1, 4, 18-19, 21-23, and 25-31 are rejected under 35 U.S.C. § 102(b) as being anticipated by Organometallics, Ahn et al. ("*Ahn*"). Respectfully, this rejection is obviated by the above amendments.

Ahn describes ethylene and propylene homopolymerization using an organozirconium complex supported on sulfated zirconia. See *Ahn*, pages 1790-91 and 1800-01. *Ahn* is silent with respect to other chemically-treated solid oxides, other solid oxide compounds, and other electron-withdrawing anions. *Ahn* does not teach or suggest solid oxide compounds other than zirconia, and thus does not teach or suggest every element of the claimed invention. Support for the amendments to the claims can be found in the specification on page 22, lines 7-15, for example. Accordingly, Applicants respectfully request that the rejection of Claims 1, 4, 18-19, 21-23, and 25-31 under 35 U.S.C. § 102(b) in view of *Ahn* be withdrawn.

Rejections Based on Obviousness-Type Double Patenting

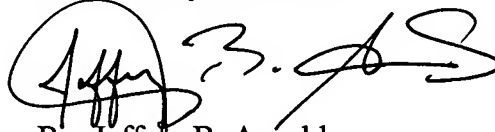
Claims 1, 4, 6, 8, and 20-22 are *provisionally* rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 38-45 of co-pending Application No. 10/797,673. Applicants assert that this provisional rejection is obviated in view of the above amendments and respectfully request that the rejection be withdrawn.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully assert that the objections and rejections as set forth in the Office Action have been fully addressed and overcome. Applicants further assert that all Claims are in condition for allowance and request that an early notice of allowance be issued. If issues may be resolved by Examiner's Amendment, or clarified in any manner, a call to the undersigned attorney at (404) 879-2433 is respectfully requested.

No fees are believed due, however, the Commissioner is hereby authorized to charge any deficiencies which may be required, or credit any overpayment to Deposit Order Account No. 09-0528.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Jeffrey B. Arnold', is written over a circular stamp or seal.

By: Jeffrey B. Arnold
Reg. No. 39,540

WOMBLE CARLYLE SANDRIDGE & RICE, PLLC
P.O. Box 7037
Atlanta, Georgia 30357-0037
Direct Telephone: (404) 879-2433
Direct Facsimile: (404) 879-2933
Firm Telephone: (404) 872-7000

Atty. Docket No.: C51757 0680 (51879.0547.5)